In the Claims:

1-26. (Canceled)

27. (Previously Presented) A method of embedding multi-bit auxiliary data into an input audio signal that is thereafter compressed to yield a compressed signal, and thereafter discerning the multi-bit auxiliary data from a non-identical counterpart to said audio signal obtained by decompressing the compressed signal, the method comprising:

providing an input audio signal representing a plurality of sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith;

for each of a plurality of samples in a series, transforming the value thereof in accordance with at least some of said multi-bit auxiliary data, wherein an encoded series of audio data is produced having the auxiliary data embedded therein;

repeating the foregoing transformation for a plurality of different series of said audio signal, thereby yielding a first encoded audio signal in which the auxiliary data is redundantly encoded through different temporal excerpts thereof;

compressing the first encoded audio signal;

decompressing the compressed, first encoded audio signal to produce a second encoded audio signal, said second encoded audio signal being non-identical to the first due to said compression/ decompression process; and

discerning the multi-bit auxiliary data from the second encoded audio signal without reference to the input audio signal.

28. (Previously Presented) The method of claim 27 in which the discerning includes processing a plurality of series of said second encoded audio signal to determine the auxiliary multi-bit data embedded therein, wherein greater or lesser confidence in the auxiliary multi-bit data discerned from said second encoded audio signal can be obtained by processing more or less series, respectively.

29. (Previously Presented) The method of claim 28 which includes performing said processing by a hardware decoding circuit.

30. (Previously Presented) The method of claim 29 which includes disabling recording capability of an apparatus based on the discerned auxiliary multi-bit data.

31. (Previously Presented) The method of claim 29 which includes incrementing a program specific billing meter based on the discerned auxiliary multi-bit data.

32. (Previously Presented) The method of claim 27 which includes:

after the compressing, storing said compressed, first encoded audio signal on an optically encoded storage disk; and

prior to said decompressing, reading said compressed, first encoded audio signal from said optically encoded storage disk.

33. (Previously Presented) The method of claim 27 which includes converting the second encoded audio signal to analog form, and thereafter discerning the multi-bit auxiliary data therefrom.

34. (Previously Presented) The method of claim 33 which includes digitizing the analog form of the second encoded audio signal to produce a digitized signal, and discerning the multi-bit auxiliary data from said digitized signal.

35. (Previously Presented) The method of claim 27 in which the transformations occur in a time domain, rather than some occurring in a transformed, frequency domain.

36. (Previously Presented) The method of claim 27 in which the transforming includes also processing the value of said plurality of samples in accordance with samples of a pseudo-random noise signal.

37. (Previously Presented) The method of claim 27 wherein a plurality of samples in the first encoded audio signal are each encoded in accordance with more than one bit of said auxiliary data, wherein single samples are each encoded in accordance with multiple bits.

38. (Previously Presented) The method of claim 27 wherein a plurality of samples in the first encoded audio signal are each encoded in accordance with no more than one bit of said auxiliary data, wherein single samples are each encoded in accordance with single bits.

39. (Previously Presented) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data signal being generally imperceptible to human listeners of the encoded audio signal, encoding comprising slight changes to portions of an original audio signal to thereby represent said multi-bit auxiliary data signal, the method further including:

computing parameters related to entropies of first and second signals, the first of said signals being an altered version of said encoded audio signal; and

comparing the computed parameters to discern a value of at least one bit of said multi-bit auxiliary data signal.

40. (Previously Presented) The method of claim 39 in which the second of said signals is the encoded audio signal.

41. (Previously Presented) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data

signal being generally imperceptible to human listeners of the encoded audio signal, encoding comprising slight changes to portions of said audio signal to thereby represent said multi-bit auxiliary data signal, the method further including processing an encoded audio signal corresponding to a plurality of series to extract said multi-bit auxiliary data signal therefrom, wherein greater or lesser confidence in the extracted multi-bit auxiliary data signal can be obtained by processing more or less series of the encoded audio signal, respectively.

42. (Previously Presented) The method of claim 41 in which said decoding includes statistically analyzing the encoded audio signal to discern the auxiliary data signal encoded therein.

43. (Previously Presented) The method of claim 41 which further includes disabling a recording capability of an associated apparatus based on at least a portion of said extracted multi-bit auxiliary data signal.

44. (Previously Presented) The method of claim 41 which includes reading said encoded audio signal from an optically encoded storage disk on which it was stored in lossy compressed form, and decompressing same prior to said decoding.

45. (Previously Presented) The method of claim 44 which includes converting said audio signal to analog form prior to said decoding.

46. (Previously Presented) The method of claim 41 in which said decoding is accomplished in a time domain.

47. (Previously Presented) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data

signal being generally imperceptible to human listeners of the encoded audio signal, encoding comprising slight changes to portions of an original audio signal to thereby represent said multi-bit auxiliary data signal, the method further including computing a dot product between a representation of the encoded audio and reference data for each of several different series, combining these dot products, comparing an outcome of the combined dot product with a threshold, and discerning a value of at least a part of said multi-bit auxiliary data based on the comparison.

48. (Previously Presented) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data signal being generally imperceptible to human listeners of the encoded audio signal, encoding comprising slight changes to portions of said audio signal to thereby represent said multi-bit auxiliary data signal, the method further including processing the encoded audio signal with a pseudo-random key signal to de-randomize the multi-bit auxiliary data signal steganographically encoded therein.

49. (Previously Presented) The method of claim 48 which includes evalulating whether copying of the encoded audio signal is permitted, based on the decoded auxiliary data signal.

50. (Currently Amended) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data signal being generally imperceptible to human listeners of the encoded audio signal, **the** encoding comprising slight changes to portions of said audio signal to thereby represent said multi-bit auxiliary data signal, the method further including applying the encoded

audio signal to a matched filter processing unit, applying a reference signal to said matched filter processing unit, and processing a plurality of series of said encoded audio signal with said processing unit to extract the multi-bit auxiliary data signal therefrom.

51. (Previously Presented) The method of claim 47 in which the decoding includes processing a plurality of series of said encoded audio data to extract the auxiliary multi-bit data encoded therein, wherein greater or lesser confidence in the auxiliary multi-bit data is obtained by processing more or less series, respectively.

52. (Previously Presented) The method of claim 51 which further includes disabling recording capability of an associated audio apparatus based on the extracted auxiliary data.

53. (Previously Presented) The method of claim 47 in which said decoding includes statistically analyzing the encoded audio to discern the auxiliary data encoded therein.

54. (Previously Presented) The method of claim 47 which further includes disabling recording capability of an associated audio apparatus based on the extracted auxiliary data.

55. (Previously Presented) The method of claim 54 which further includes disabling recording capability of the associated audio apparatus based on part of said extracted auxiliary data, other of said extracted auxiliary data serving a purpose unrelated to disabling a recording capability.

56. (Previously Presented) The method of claim 47 which includes reading said encoded audio from an optically encoded storage disk prior to said decoding.

57. (Previously Presented) The method of claim 56 in which said encoded audio is stored on the optically encoded storage disk in a compressed form that leads to data loss from the encoded audio.

58. (Previously Presented) The method of claim 57 which further includes disabling recording capability of an associated audio apparatus based on the auxiliary data extracted from said encoded audio notwithstanding said data loss.

59. (Previously Presented) The method of claim 47 in which said decoding is accomplished in a time domain.

60. (Previously Presented) The method of claim 47 which further includes processing the encoded audio with a pseudo-random key signal in decoding the multi-bit auxiliary data steganographically encoded therein.

61. (Previously Presented) The method of claim 60 which includes evaluating whether copying of the encoded audio is permitted, based on the decoded auxiliary data.

62. (Previously Presented) The method of claim 47 in which said dot product is performed by a matched filter processing unit.

63. (Previously Presented) The method of claim 62 which includes processing plural series of said encoded audio with said processing unit to extract the multi-bit auxiliary data therefrom.

64. (Previously Presented) The method of claim 47 in which said decoding does not yield a final multi-bit auxiliary data until plural series have been processed.

65. (Previously Presented) A method of decoding an encoded audio signal to extract a multi-bit auxiliary data signal therefrom, the encoded audio signal comprising plural sequential series of audio data, each series comprising a plurality of samples, each

sample having a value associated therewith, the multi-bit auxiliary data signal being steganographically encoded in each of several of the series, the multi-bit auxiliary data signal being generally imperceptible to human listeners of the encoded audio signal, encoding comprising slight changes to portions of an original audio signal to thereby represent said multi-bit auxiliary data signal, the method further including, for a first series, performing one or more dot product operations between a representation of a series and reference data, repeating said dot product operations for each of one or more additional series, combining the dot products thus produced, discerning at least part of the multi-bit auxiliary data from the combined dot products, and determining whether to disable recording capability of an associated audio apparatus based on discerned data.

66. (Previously Presented) The method of claim 65 which further includes determining whether to disable the recording capability of the associated audio apparatus based on part of the discerned auxiliary data, other of said discerned auxiliary data serving a purpose unrelated to disabling a recording capability.

67. (Previously Presented) The method of claim 65 which includes reading said encoded audio from an optically encoded storage disk prior to said decoding, said encoded audio being stored on the disk in a compressed form that leads to data loss from the encoded audio, wherein the auxiliary data is discerned notwithstanding such data loss.

68. (Previously Presented) A method of embedding plural-bit auxiliary data into an audio signal that is thereafter compressed to yield a compressed audio signal, and thereafter discerning the plural-bit auxiliary data from a non-identical counterpart to a signal obtained by decompressing the compressed audio signal, the method comprising:

providing an input audio signal comprising a plurality of samples, each sample comprising eight or more bits, said bits defining a sample value;

for each of a plurality of samples, transforming the value thereof in accordance with at least some of the plural-bit auxiliary data, wherein a first encoded audio signal is produced having the auxiliary data embedded therein;

compressing the first encoded audio signal;

decompressing the compressed, first encoded audio signal to produce a second encoded audio signal, said second encoded audio signal being non-identical to the first encoded audio signal due to said compression and decompression; and

discerning the plural-bit auxiliary data from the second encoded audio signal;

wherein the transforming comprises adding an overlay signal to the audio signal.

69. (Previously Presented) In a method of decoding encoded content to extract multi-bit auxiliary data therefrom, the encoded content representing audio or video and including plural portions, the multi-bit auxiliary data being steganographically encoded therein, the multi-bit auxiliary data thus being generally imperceptible to human consumers of the content, encoding comprising slight changes to portions of the content to thereby represent multi-bit auxiliary data, an improvement comprising:

computing parameters related to the entropies of first and second signals, the first of said signals being an altered version of the encoded content; and

comparing the computed parameters to discern the value of at least one bit of the multi-bit auxiliary data.

70. (Previously Presented) In a method of decoding encoded content to extract multi-bit auxiliary data therefrom, the encoded content representing audio or video and including plural portions, the multi-bit auxiliary data being steganographically encoded therein, the multi-bit auxiliary data thus being generally imperceptible to human consumers of the content, encoding comprising slight changes to portions of the content to thereby represent the multi-bit auxiliary data, an improvement comprising computing a dot product between a representation of the encoded content and reference data for each of several different portions of the content, combining these dot products, comparing an outcome of the combined dot product with a threshold, and discerning the value of at least a part of the multi-bit auxiliary data based on said comparison.

71. (New) A method of processing a digital audio signal comprising altering the digital audio signal in accordance with an embedded signal so as to encode an auxiliary code therein; the digital audio signal, the altered audio signal, and the embedded signal

each including a number of elements, each with an associated value, wherein an element of the altered audio signal has a value different than that of corresponding elements in both the digital audio and embedded signals, and wherein the auxiliary code and certain pseudorandom reference data are used to generate the embedded signal, the association between the embedded signal and the auxiliary code being indiscernible without availability of the reference data, the method further including transforming the pseudorandom reference data according to the auxiliary code to generate the embedded signal; and scaling the embedded signal according to characteristics of the digital audio signal such that the altered signal preserves aural information of the digital audio signal without human perceptible degradation.

72. (New) The method of claim 71 including providing calibration data in the embedded signal to facilitate decoding of the auxiliary code from the altered signal.

73. (New) The method of claim 71 including embedding the auxiliary code in the audio signal repeatedly and varying representation of the auxiliary code in the audio signal according to a key.

74. (New) The method of claim 71 including embedding the auxiliary code in the audio signal such that the auxiliary code can be recovered from the altered audio signal despite lossy compression of the altered audio signal.

75. (New) The method of claim 71 including embedding the auxiliary code in the audio signal repeatedly such that recovery of the auxiliary code from the altered audio signal is improved by combining elements of the embedded signal in a process of decoding the auxiliary code.

76. (New) The method of claim 71 wherein the scaling comprises scaling the embedding signal as a function of the audio signal and as a function of a user adjustable scale factor.

77. (New) A method of decoding an auxiliary code from a digital audio signal wherein the digital audio signal has been altered in accordance with an embedded signal so as to encode an auxiliary code therein, pseudorandom reference data and the auxiliary code having been used to generate the embedded signal, the association between the embedded signal and the auxiliary code being indiscernible without availability of the reference data, wherein the embedded signal has been generated by transforming the pseudorandom reference data according to the auxiliary code, and has been scaled according to characteristics of the digital audio signal such that the encoding of the auxiliary code in the digital audio signal preserves aural information of the digital audio signal without human perceptible degradation, the method comprising:

detecting the embedded code signal; and

ascertaining values of the auxiliary code through a process that includes identifying transformation of the pseudorandom reference data.

78. (New) The method of claim 77 including using calibration data in the embedded signal to facilitate decoding of the auxiliary code from the altered signal.

79. (New) The method of claim 77 wherein the auxiliary code is embedded in the audio signal repeatedly and a representation of the auxiliary code is varied in the audio signal according to a key.

80. (New) The method of claim 77 wherein the auxiliary code is recoverable from the audio signal after lossy compression of the audio signal.

81. (New) The method of claim 77 wherein the auxiliary code is repeatedly embedded in the audio signal, and the method includes combining elements of the embedded signal in a process of decoding the auxiliary code to improve recovery of the auxiliary code.

82. (New) A method comprising:

receiving a representation of audio in compressed form;

processing said compressed form to discern a steganographically encoded plural-bit auxiliary code therefrom;

wherein encoding of the auxiliary code in the compressed form was adapted to survive a lossy compression-decompression operation that thereby distorts the decompressed form of the audio as compared with the audio prior to compression.

83. (New) The method of claim 82 which includes limiting ability of an apparatus to record the audio based on the discerned auxiliary code.